REMARKS

The specification has been amended to include a new title and abstract, and to include a cross reference to related applications in the first paragraph. No prohibited new matter has been added by way of these amendments.

In addition, Applicants respectfully request examination of the newly submitted claims. No prohibited new matter has been added by way of the newly submitted claims. Support for the new claims may be found throughout the specification, for instance, as exemplified by the following chart:

Claim	Exemplary Support
55	page 31, lines 15-19 ("Assessment of the adhesivity of pathogens with target cell receptors under shear") page 57, lines 9-10 ("panel of ligand assemblies displayed on immobilized substrates") page 56, line 32 ("adhesive substrates") page 57, line 20 ("ligand bearing substrates")
56	page 56, lines 28-30 ("*in vitro* shear assay system using target cells that express the ligand for the adhesion molecule or purified ligands") page 57, lines 5-18 ("*in vitro* shear flow apparatus that provides a reproducible real-time monitoring and quantification of microbial adhesive interactions with a panel of ligand assemblies displayed on immobilized substrates or cells of the endothelia an epithelia or other target cells during simulated physiological shear")

57	page 10, line 17 ("reacts with receptor (ligands)") page 34, line 4 ("receptor ligands")
58	page 10, line 17 ("reacts with receptor (ligands)") page 34, line 4 ("receptor ligands")
59	page 41, lines 6-8 ("Using a variable speed peristaltic pump, flow was regulated to simulate *in vivo* flow shear conditions (1-3 dynes/cm^2)") page 19, lines 27-29 ("Epithelial cells line the lumenal surfaces of the intestinal tract, genito-urinary tract, upper respiratiry tract and various organs of the mammal") page 4, line 35 ("blood vessel shear flow system")
60	page 56, lines 30-31 ("ligands coated on the lumenal surface of a capillary tube") page 57, lines 12-14 ("closed capillary loop in which fluids are recirculated via a peristaltic pump")
61	page 4, line 35 to page 5, line 4 ("An *in vivo* shear model employing intravital microscopy has also been developed by the inventors to examine cellular interactions under physiological shear forces found in the venule of an intact animal") page 57, line 32 to page 58, line 3 ("endothelial venules in exteriorized mouse Peyer patches or intestinal epithelium")
62	page 57, lines 25-26 ("real-time and off-line video analysis of adhesion events")

63	page 63, lines 29-30 ("ligand structures on host tissues")
64	page 53, line 10 ("paramagnetic beads coated with monoclonal antibody")
65	page 53, line 10 ("paramagnetic beads coated with monoclonal antibody")
66	page 59, line 20 to page 60, line 23 (preparation of carbohydrate and glycoprotein PAM screening matrices) page 3, line 24 ("host cell (adhesion) protein") page 64, lines 25-26 ("ligand structures on host cells, both glycoprotein and glycolipid in nature")
67	page 17, lines 35-36 ("host leukocytes, epithelial cells, endothelial cells and nervous system cells")
68	page 6, lines 16-17 ("cytokine-stimulated endothelial cells") page 40, lines 18-20 ("endothelial cells were treated with IL-1 to induce E-selectin and other adhesion molecule expression") page 40, lines 33-34 ("Epithelial cell containing capillary tubes were activated with 100 mM PMA for four hours")
69	page 41, lines 16-18 ("Adherence of bead-bound or planktonic forms of microorganisms to monolayers was established and continuously monitored")
70	page 13, line 2 ("pathogenic bacteria, fungi and protozoa") page 29, lines 24-30 (viruses "employ molecular mimicry of cytokines to subvert host cellular functions")
71	page 41, lines 22-25 ("monitored before and after the injection of adhesion

	modifiers") page 31, lines 20-22 ("Testing of the effect of anti-adhesive reagents . . . on the target cell-pathogen interaction") page 63, lines 30-32 ("permits the inventors to test various reagents and modify adhesive interactions under physiological conditions") page 41, lines 9-11 ("permits multiple infusions of various mAbs during the continuous recirculation") page 63, lines 7-9 ("permits multiple infusions of various specific adhesion- or ligand-blocking mAbs during the continuous recirculation")
72	page 41, lines 9-11 ("permits multiple infusions of various mAbs during the continuous recirculation") page 63, lines 7-9 ("permits multiple infusions of various specific adhesion- or ligand-blocking mAbs during the continuous recirculation") page 64, lines 24-28 ("Monoclonal antibodies are produced against ligand structures on host cells, both glycoprotein and glycolipid in nature, to develop reagents for detecting and blocking microbial adhesion events")
73	page 66, Example 21 (identification of peptide domains of adhesive epitopes using monoclonal antibodies prepared against adhesin-positive microbes)
74	page 66, line 24 ("Epitope mapping using random phage display libraries" page 66, lines 27-29 ("Monoclonal antibodies are prepared against purified glycoproteins or glycolipids or adhesin-positive microbes are used to probe

	a nonapeptide library")
75	page 66, lines 31-32 ("Affinity purification of phage bearing epitopes")
76	page 3, lines 21-23 ("provides a diagnostic assay which comprises a monoclonal antibody specific for a microbial attachment molecule")
77	page 3, lines 28-30 ("provides a therapeutic peptide comprising a molecule which mimics the adhesion molecule of a pathogen")
78	page 3, lines 2-6 ("provide a vaccine comprising a microbe attachment molecule")
79	page 3, lines 2-6 ("provide a vaccine comprising a microbe attachment molecule") page 66, lines 10-13 ("Monoclonal antibodies directed against microbial adhesion molecules and host ligands can be used as diagnostic reagents and, in some instances, as therapeutic agents") page 67, lines 25-30 ("peptides able to block the adhesion of microorganisms to target cells *in vivo* can be used as therapeutic agents for the treatment or prevention of infectious diseases. These peptides can also be used as diagnostic reagents for detecting anti-adhesion antibodies produced by the host against PAMs")
80	page 66, Example 20 (antibodies) page 66, Example 21 (peptides) page 33, line 34 (carbohydrates) page 3, line 3 (isolated pathogen adhesin molecule)

	page 50, lines 19-22 (use of oligonucleotides in live vaccines)

Except for issue fees payable under 37 CFR §1.18, the commissioner is hereby authorized by this paper to charge any additional fees during the pendency of this application including fees due under 37 CFR §1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 CFR §1.136(a)(3).

If the Examiner has any questions relating to this Amendment or to the application in general, he or she is respectfully requested to contact the undersigned by telephone so that allowance of the present application may be expedited.

Respectfully Submitted,

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Dated: February 19, 2004 By: 

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